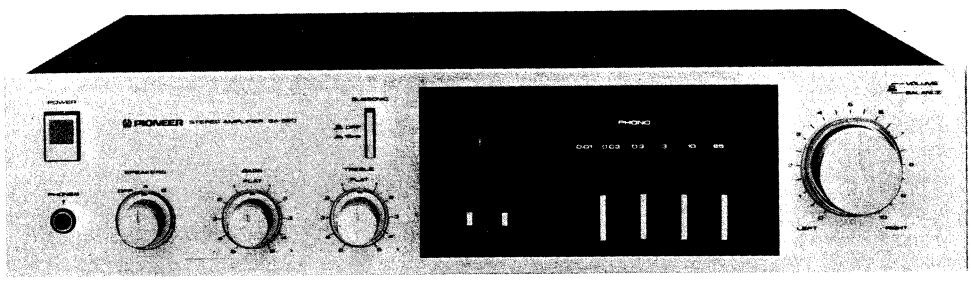
Operating Instructions

STEREO AMPLIFIER

SA-520

HE

ENGLISH



This operation manual is written in four languages. The English is from page 1 to page 10, the German from page 11 to page 18, the French from page 19 to page 26 and the Italian from page 27 to page 36. Please read the pages in your language to learn to use this product correctly.

Diese Bedienungsanleitung ist in vier Sprachen abgefaßt. Der englische Text reicht von Seite 1 bis Seite 10, der deutsche Text von Seite 11 bis Seite 18, der französische Text von Seite 19 bis Seite 26 und der italienische Text von Seite 27 bis Seite 36. Lesen Sie bitte die Seiten in Ihrer Muttersprache aufmerksam durch, um sich mit diesem Produkt gut vertraut zu machen.

Ce manuel d'utilisation a été rédigé en quatre langues. La version anglaise va de la page 1 à la page 10, la version allemande de la page 11 à la page 18, la version française de la page 19 à la page 26 et la version italienne de la page 27 à la page 36. Veuillez lire les instructions dans la langue qui vous intéresse pour apprendre à utiliser correctement ce produit.

Questo manuale d'istruzioni per l'uso è redatto in quattro lingue. L'inglese è da pag. 1 a pag. 10, il tedesco de pag. 11 a pag. 18, il francese da pag. 19 a pag. 26 e l'italiano da pag. 27 a pag. 36. Leggete attentamente le istruzioni nella vostra lingua per poter usare correttamente questo prodotto.

PIONEER®

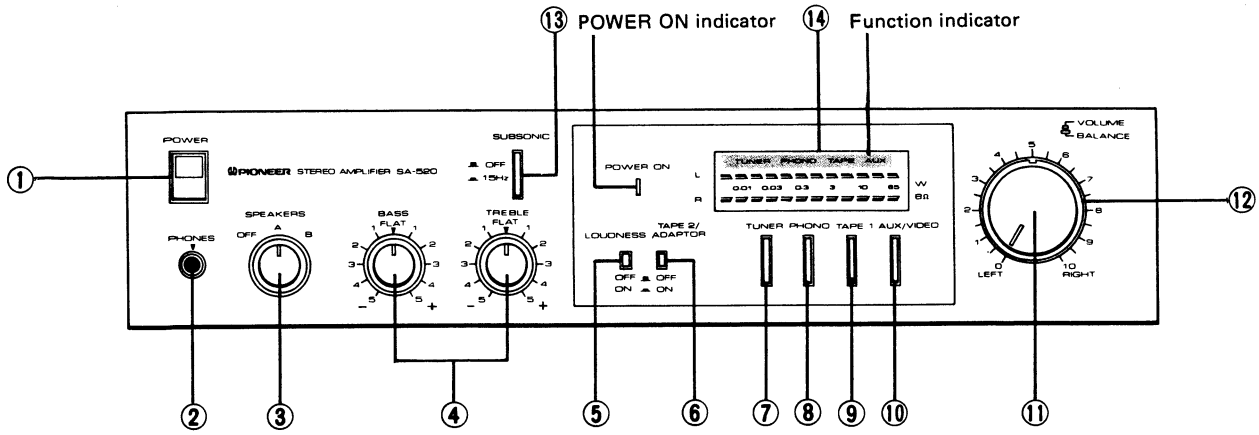
CONTENTS

Front Panel Facilities 3
Rear Panel Facilities 4
Connections 5
Operating Procedures 6
Using the Audio Timer 9
Troubleshooting 10
Specifications 11

IMPORTANT

To prevent electric shock, do not remove cover. No user serviceable parts inside, refer servicing to qualified service personnel.
Always disconnect all the equipment from the mains supply when disconnecting the signal leads. The power cord should be connected last, make sure that the power switch is off.
Unplug the set from the wall socket when it is not to be used for an extended period of time.

FRONT PANEL FACILITIES



① POWER SWITCH

Depress this switch to turn on or off power. When this switch is depressed, power is supplied and POWER ON indicator lights. When this switch is released, power is turned OFF and POWER ON indicator is extinguished.

② PHONES JACK

Plug headphones into this jack for private listening through them. Set the SPEAKERS selection switch to OFF.

③ SPEAKERS SELECTOR

Change the setting of this switch to listen through headphones or in order to choose either of two pairs of connected speakers. Normally, the switch should be positioned at A.

OFF . . . Use this setting when listening through headphones (no sound comes out of the speakers).

A . . . . . Sound is heard from speakers connected to the A speaker terminals.

B . . . . . Sound is heard from speakers connected to the B speaker terminals.

④ BASS AND TREBLE CONTROLS

Use these controls to adjust the tone. The right one controls treble and the left one controls bass.

FLAT is the neutral position. Turning knob clockwise accentuates the bass or treble, and turning knob counter-clockwise attenuates the bass or treble.

⑤ LOUDNESS SWITCH

Depress this switch to ON when listening at low volume. Bass and treble will be emphasized to compensate for human listening characteristics and provide natural listening curve.

⑥ TAPE 2/ADAPTOR SWITCH

Depress this switch to ON when using a graphic equalizer or a second tape deck (or any equipment) connected to the TAPE 2/ADAPTOR terminals.

⑦ TUNER SWITCH

Push this switch to listen to an AM or FM broadcast (refer to page 6) or to record a radio program (refer to page 8).

⑧ PHONO SWITCH

Push this switch to listen to records (refer to page 7) or to recording from records to tape (refer to page 8).

⑨ TAPE 1 SWITCH

Push this switch to listen to tape deck connected to TAPE 1 terminals (refer to page 7) or when dubbing from one tape deck to another (refer to page 8).

⑩ AUX/VIDEO SWITCH

Push this switch to listen to a program source connected to the AUX/VIDEO terminals.

⑪ VOLUME CONTROL

Turn this control to adjust the output level of the speakers and the headphones. Output is minimum at 0 and increases as the control is turned clockwise.

⑫ BALANCE CONTROL

This control should normally be set to 5. When the output from the left and right speakers or headphones is not the same, adjust by turning the control clockwise or counterclockwise.

⑬ SUBSONIC SWITCH

Set this switch to the "15 Hz" position when listening to records. It serves to attenuate frequencies lower than 15 Hz and, therefore, it can be used to suppress the ultra-low-range noise which is generated by record warp and other factors. When listening to program sources other than records, set this switch to OFF.

⑭ POWER METER

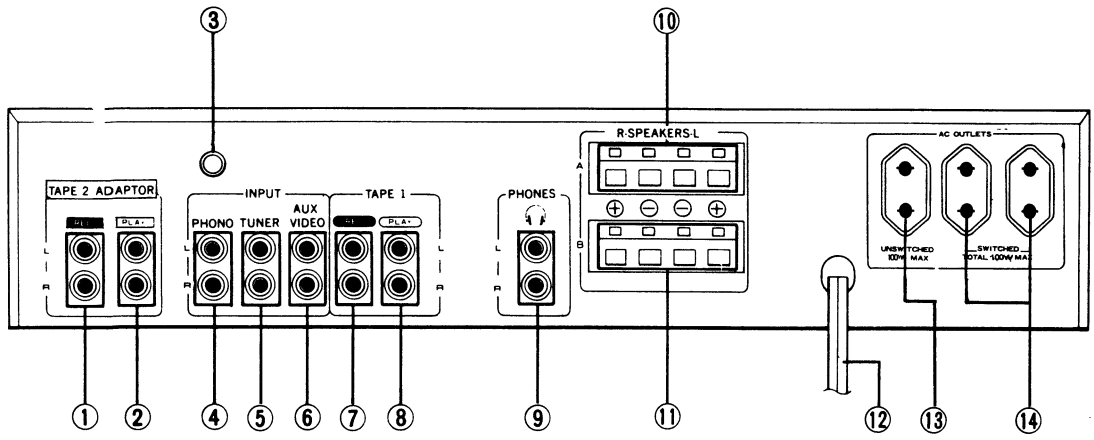
The POWER meter shows the output level in watts when speaker systems with a nominal impedance of 8 ohms have been connected to the SPEAKERS terminal of this unit.

L . . . . . Output of left speaker

R . . . . . Output of right speaker

ENGLISH

REAR PANEL FACILITIES



① TAPE 2/ADAPTOR (REC) TERMINALS

Connect the recording (input) cords of a graphic equalizer or a second tape deck to these terminals.

② TAPE 2/ADAPTOR (PLAY) TERMINALS

Connect the playback (output) cords of a graphic equalizer or a second tape deck to these terminals.

③ GND TERMINAL

Connect the ground wire of the turntable to this terminal.

④ PHONO TERMINALS

Connect the turntable's output cords to these terminals.

⑤ TUNER TERMINALS

Connect the tuner's output cords to these terminals.

⑥ AUX/VIDEO TERMINALS

A television tuner or the audio output of a VTR (Video Tape Recorder) can be connected here. The terminals can also be used as spare terminals for connecting other equipment.

⑦ TAPE 1 (REC) TERMINALS

The tape deck's recording (input) cords are connected here.

⑧ TAPE 1 (PLAY) TERMINALS

The tape deck's playback (output) cords are connected here.

⑨ PHONES TERMINALS

When this amplifier is housed in a Pioneer Stereo Rack, the rack's headphones cord are plugged in here.

⑩ SPEAKERS TERMINALS A

Connect the first pair of speakers to these terminals. When facing the system in the listening position, connect the right speaker to the R terminals and the left speaker to the L terminals.

⑪ SPEAKERS TERMINALS B

Connect the second pair of speakers to these terminals.

⑫ POWER CORD

Plug into a household outlet (or the outlet of an audio timer).

⑬ AC OUTLET (UNSWITCHED)

Power flows continually to this outlet, regardless of whether amplifier is switched ON or OFF. Electrical power consumption of the connected appliance should not exceed 100W.

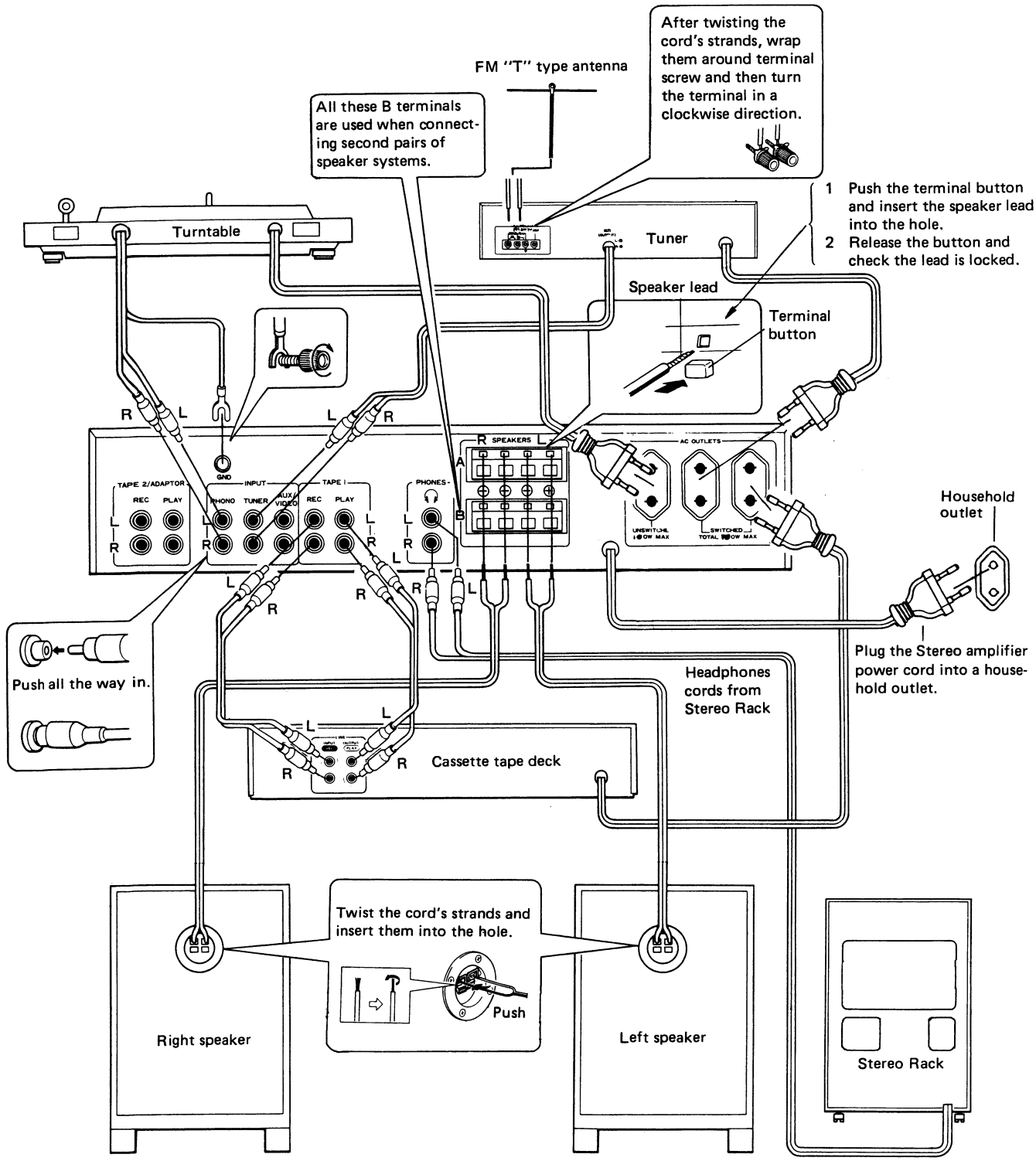
⑭ AC OUTLETS (SWITCHED)

Power supplied through these outlets is turned on and off by the amplifier's POWER switch. Total electrical power consumption of connected appliances should not exceed 100W.

NOTE:
Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLETS. This can cause the amplifier to malfunction.

CONNECTIONS

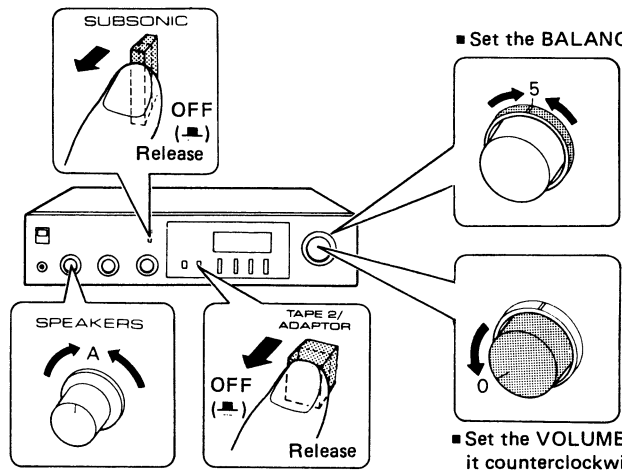
The figure below shows how connections should be made when using with Pioneer's System Components.


After twisting the cord's strands, wrap them around terminal screw and then turn the terminal in a clockwise direction.
FM "T" type antenna
All these B terminals are used when connecting second pairs of speaker systems.
1 Push the terminal button and insert the speaker lead into the hole.
2 Release the button and check the lead is locked.
Turntable
Tuner
Speaker lead
Terminal button
SPEAKERS
AC OUTLETS
TAPE 2/ADAPTOR
INPUT
TAPE 1
PHONES
Household outlet
Push all the way in.
Plug the Stereo amplifier power cord into a household outlet.
Headphones cords from Stereo Rack
Cassette tape deck
Twist the cord's strands and insert them into the hole.
Push
Right speaker
Left speaker
Stereo Rack

OPERATING PROCEDURES

PRELIMINARY OPERATIONS

■ Set the SUBSONIC switch to OFF.



■ Set the BALANCE control to 5.

■ Set the VOLUME control to 0 by turning it counterclockwise until it stops.

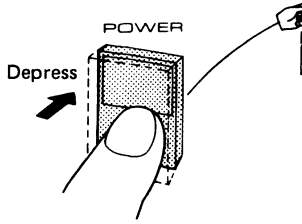
■ Set the SPEAKERS selector to A.

■ Set the TAPE 2/ADAPTOR switch to OFF.

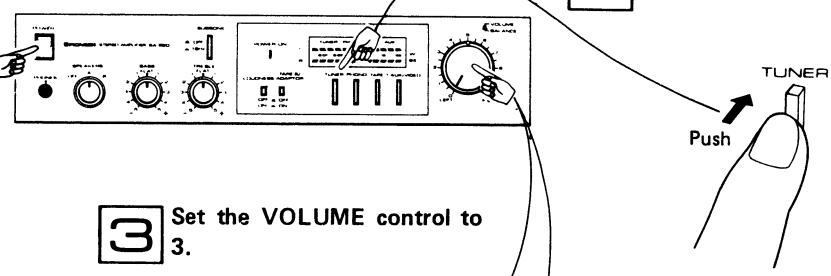
TO LISTEN TO FM OR AM BROADCAST

The amplifier and a tuner are used.

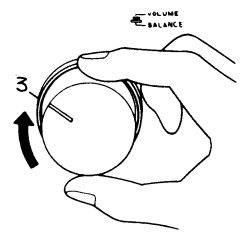
1 **Set the amplifier's and the tuner's POWER switches to ON.**



2 **Push the TUNER switch.**



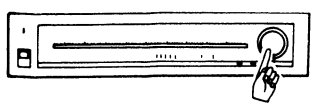
3 **Set the VOLUME control to 3.**



4 **Set the tuner to the desired station.**

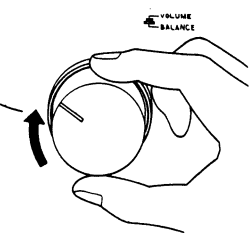
Follow the tuner's operating instructions to obtain optimum reception.

Tuner



Tuning operation

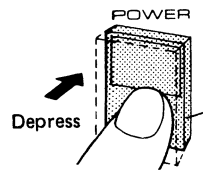
5 **Adjust volume with the VOLUME control.**



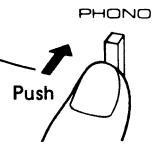
PLAYING RECORDS

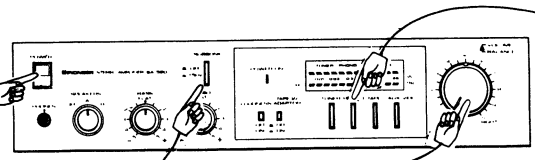
The amplifier and a turntable are used.

1 Set the POWER switch to ON.

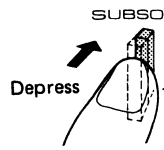


2 Push the PHONO switch.

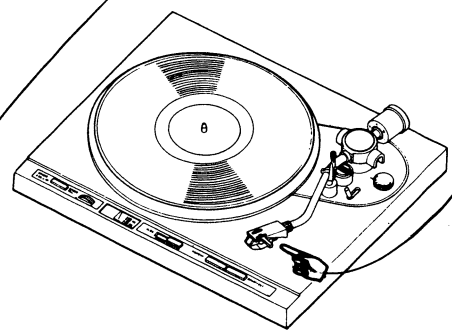




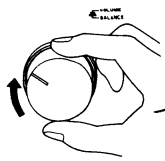
3 Set the SUBSONIC switch to 15Hz.



4 Set the record playing on the turntable, paying attention to proper speed and record size.



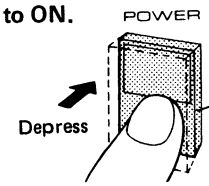
5 Adjust the volume with VOLUME control.



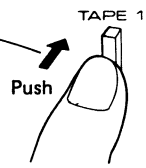
PLAYING BACK TAPES

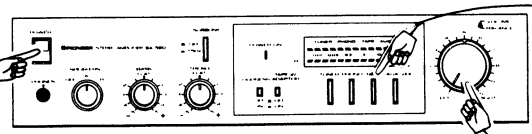
The amplifier and a tape deck are used.

1 Set the amplifier's and the tape deck's POWER switches to ON.

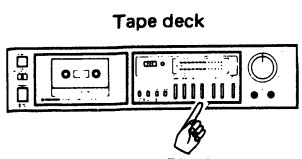


2 Push the TAPE 1 switch.

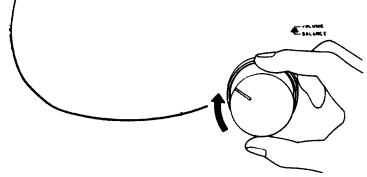




3 Begin playback operation on tape deck, paying attention to the position of tape selection switch, Dolby NR switch, etc.



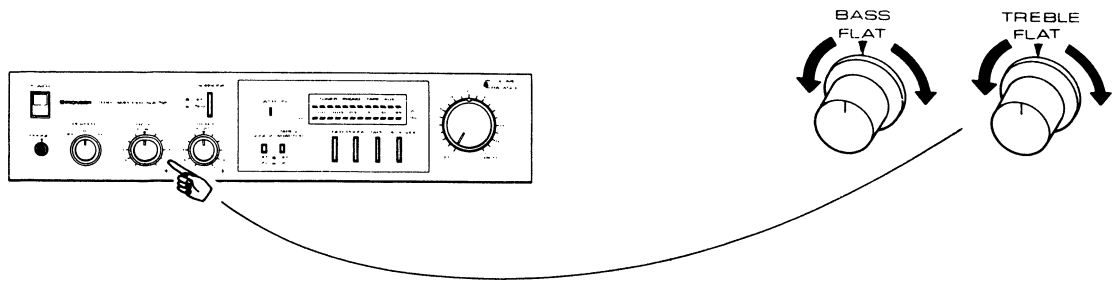
4 Adjust the volume with VOLUME control.



ADJUSTING THE TONE

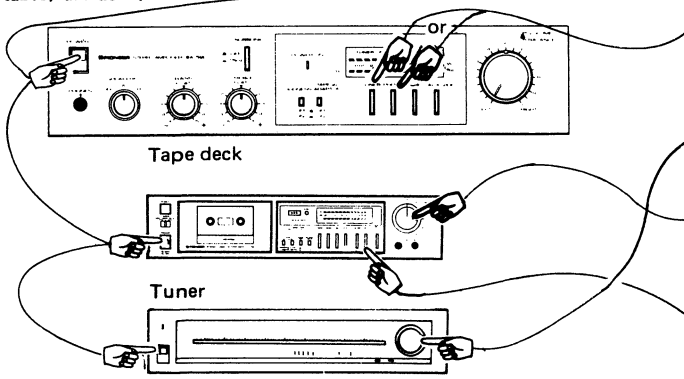
Reproduced sound is affected by speaker characteristics and by the reflection and absorption characteristics of the listening room. The bass and treble can be accentuated or attenuated to control these effects to your taste.

■ **Adjust the tone by turning the BASS and TREBLE controls.**



RECORDING FM BROADCASTS OR RECORDING FROM RECORDS

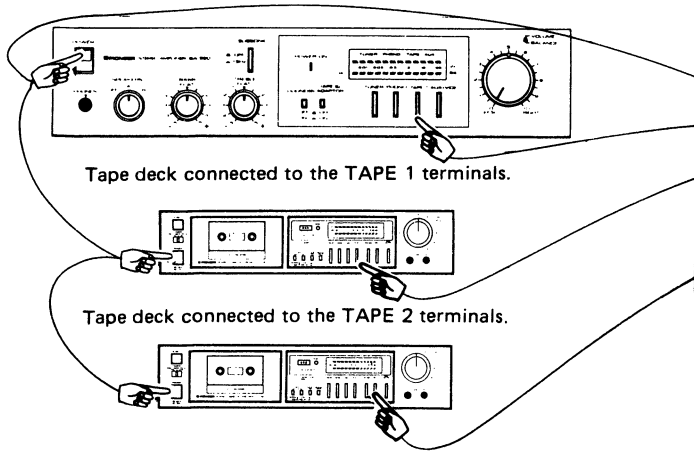
The amplifier, a tape deck and a tuner (or turntable) are used.



1. **Turn on the equipment to be used.**
2. **Push the TUNER or PHONO switch.**
   Push the TUNER switch for recording FM broadcasts or the PHONO switch for recording from records.
3. **Operate the tuner (or the turntable) to obtain the desired FM broadcast (or play the desired record).**
4. **Adjust the tape deck's recording level.**
   Refer to the tape deck's operating instructions for the proper procedure.
5. **Begin recording with the tape deck.**

TAPE-TO-TAPE DUBBING

Two tape decks are necessary for this operation.

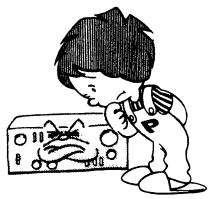
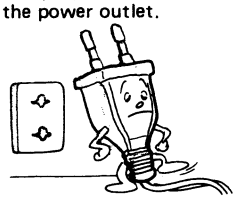
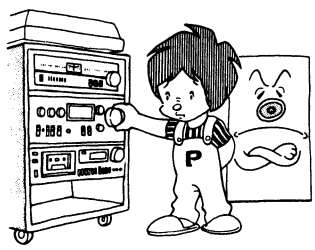
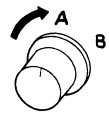
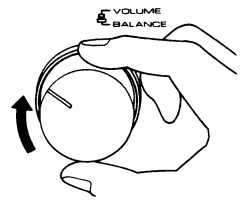
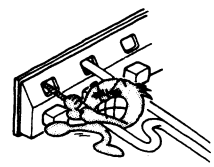
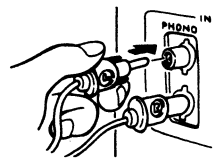
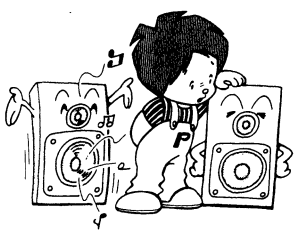
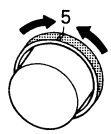
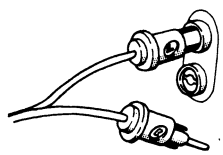
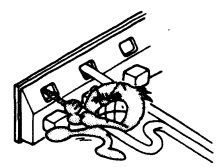
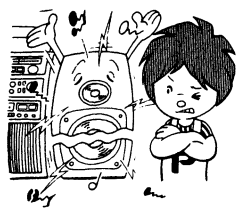
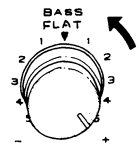


The following operational procedure is followed when dubbing from a tape deck connected to the TAPE 1 terminals to a tape deck connected to the TAPE 2 terminals.

1. **Turn on the equipment to be used.**
2. **Push the TAPE 1 switch.**
3. **Begin playback on the tape deck connected to the TAPE 1 terminals.**
4. **Begin recording on the tape deck connected to the TAPE 2 terminals.**
   When dubbing from a tape deck connected to the TAPE 2 terminals to a tape deck connected to the TAPE 1 terminals, push the TAPE 2/ADAPTOR switch to ON and push any switch (PHONO, TUNER, or AUX/VIDEO) other than the TAPE 1 switch.

TROUBLESHOOTING

Sometimes an operational fault can be mistaken for a malfunction or failure. Check the following points and see if the symptoms of the trouble are outlined below before you get in touch with the serviceman. If you cannot locate the symptoms, turn off the power and contact your nearest Pioneer Service Center, Service Station or authorized Pioneer dealer.

Symptom	Possible trouble and Remedy		
No power even when amplifier's POWER switch is set to ON. 	Power plug is not connected to the power outlet.  Connect the plug to the outlet.		
No sound even when FUNCTION selector switch is set. 	SPEAKERS switch is set to OFF.  Select switch in accordance with the speaker systems you have connected to rear panel terminals.	VOLUME control is set to '0'.  Rotate VOLUME control slowly clockwise.	Connecting cords have worked free of speaker terminals.  Connect securely.
	TAPE 2/ADAPTOR switch is set to ON. Set to OFF (Release position).	One or both input cords have worked free.  Connect the jacks securely.	
Sound through one speaker only. 	BALANCE control is set to LEFT or RIGHT.  Set the control to center position.	One of input cords has worked free.  Connect the jacks securely.	One of speaker connecting cords has worked free.  Connect securely.
Sound is distorted. 	VOLUME control is set too high. Set the control to lower position.	BASS control is turned too high.  Rotate in direction of "FLAT."	

SPECIFICATIONS

Amplifier Section

Continuous power output is 32 watts* per channel, min., at 8 ohms from 20Hertz to 20,000 Hertz with no more than 0.03% total harmonic distortion.

Continuous Power Output at 1kHz (both channels driven)
T.H.D 0.02%, 8 ohms . . . . . .35 watts per channel
Total Harmonic Distortion (20 Hertz to 20,000 Hertz, 8 ohms, from AUX)
15 watts per channel power output
. . . . . No more than 0.02%
Intermodulation Distortion (50 Hertz: 7,000 Hertz = 4 : 1 8 ohms, from AUX)
continuous rated power output . . No more than 0.03%
15 watts per channel power output
. . . . . No more than 0.02%
Damping Factor (20 Hertz to 20,000 Hertz, 8 ohms) . . 40
Input (Sensitivity/Impedance)
PHONO . . . . . 2.5mV/50 kilohms
TUNER . . . . . 150mV/50 kilohms
AUX . . . . . 150mV/50 kilohms
TAPE PLAY 1, 2/ADAPTOR . . . . 150mV/50 kilohms
Phono Overload Level (T.H.D. 0.05%, 1,000Hz)
PHONO 120mV
Output (Level)
TAPE REC 1, 2/ADAPTOR 150mV
Speaker . . . . . A, B, OFF
Frequency Response
PHONO (RIAA Equalization)
. . . . . 20Hz to 20,000Hz±0.3dB
TUNER, AUX, TAPE PLAY 1, 2/ADAPTOR
. . . . . 10Hz to 60,000Hz±3dB
Tone Control
BASS . . . . . ±10dB (100Hz)
TREBLE . . . . . ±10dB (10,000Hz)
Subsonic Filter . . . . . 15Hz (–6dB/oct)
Loudness Contour (Volume control set at –40dB position)
. . . . . +6dB (100Hz), +3dB (10,000Hz)
Hum and Noise (IHF, short-circuited, A network)
PHONO 82dB
TUNER, AUX, TAPE PLAY 1, 2/ADAPTOR 100dB
Hum and Noise (DIN, continuous Power/50mW)
PHONO 71dB/62dB
TUNER, AUX, TAPE 1, 2/ADAPTOR 88dB/62dB

Miscellaneous

Power Requirements . . . . . a.c. 220V 50/60Hz
Power Consumption 220W
Dimensions . . . . . 420(W) x 94(H) x 349(D) mm
16-9/16(W) x 3-11/16(H) x 13-3/4(D) in
Weight (without package) . . . . . 6.0 kg (13 lb 4 oz)

Furnished Parts

Operating Instructions 1

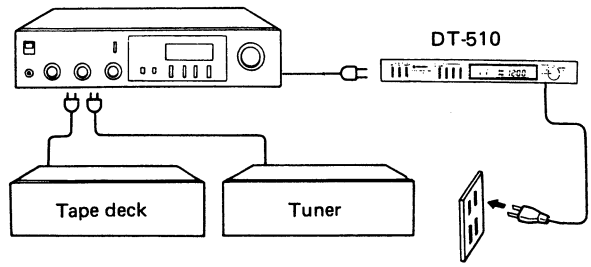
NOTE:
Specifications and the design subject to possible modifications without notice due to improvements.

* *Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.*

USING THE AUDIO TIMER

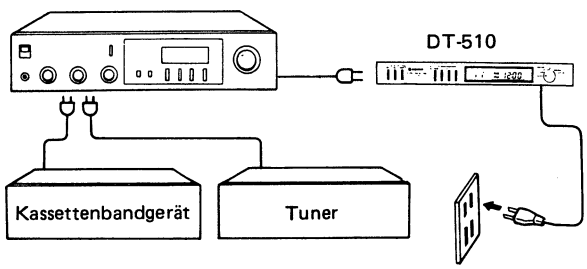
AUDIO DIGITAL TIMER DT-510

The DT-510 is an electronic timer that will automatically turn stereo equipment on or off at the desired time. It can wake you up to your favorite music by playing tapes or starting radio broadcasts at the desired time, it can record radio broadcasts while you are away, and it can turn off a radio broadcast or tape after you fall asleep.



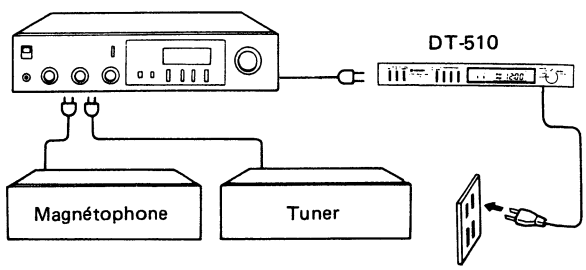
DIGITALE AUDIO-ZEITSCHALTUHR (DT-510)

Beim DT-510 handelt es sich um eine elektronische Zeitschaltuhr, die Stereogeräte zur gewünschten Zeit ein- und ausschaltet. Sie kann Sie mit Ihrer Lieblingsmusik durch Wiedergabe von Bändern oder Empfang von Rundfunksendungen zur gewünschten Zeit wecken, sie kann Rundfunksendungen aufnehmen, während Sie abwesend sind, und sie kann den Rundfunkempfang oder die Bandwiedergabe beenden, nachdem Sie eingeschlafen sind.



PROGRAMMATEUR AUDIO (DT-510)

Le DT-510 est une minuterie électronique qui, programmée, allume et éteint des maillons de la chaîne stéréo au moment désiré. On peut ainsi se réveiller au son musical de ses bandes préférées ou d'une émission de la radio, ou encore réaliser des enregistrements à partir de la radio sans être soi-même sur place, ou bien s'endormir en musique sans se préoccuper de couper l'alimentation électrique des appareils.



TIMER DIGITALE AUDIO (DT-510)

Il DT-510 è un timer elettronico che accende e spegne automaticamente i componenti collegati all'ora desiderata. Esso permette di svegliarsi ad un'ora prestabilita con la musica favorita dei nastri o con la radio, può registrare le radiotrasmissioni mentre si è assenti, e può spegnere la radio il registratore dopo che ci si è addormentati.